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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/675,138	09/30/2003	Risto Olavi Harjula	7212.3001.002	5711

7590 12/01/2004  
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EXAMINER

CINTINS, IVARS C

ART UNIT	PAPER NUMBER
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1724

DATE MAILED: 12/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/675,138

Applicant(s)

HARJULA ET AL.

Examiner

Ivars C. Cintins

Art Unit

1724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 17 September 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-4, 7-10, 14, 15 and 17-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7-10 and 14, 15 and 17-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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Initially, it is noted that claims 1-4, 7-10, 14 and 15 contain the status identifier "previously presented." However, since these claims were never amended, this status identifier is improper. Applicant is advised that all future responses must include the status identifier "original" for these types of claims.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 17 and 18 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention. The limitation that material is obtained by reacting a "silicone-containing compound" and an "organic containing compound" (claim 17, lines 4-5) does not appear to be supported by the disclosure originally filed, and hence constitutes **new matter**.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bedard (U.S. Patent No. 5,858,243). The reference discloses removing contaminant metal ions of the type recited (see col. 5, lines 29-32) from an aqueous stream (see col. 1, lines 14-15) with a crystalline silicate material (see col. 2, lines 49 and 53) containing niobium, tantalum, antimony or mixtures thereof (see col. 2, lines 59-61). This reference further suggests the ratio recited in

claim 2, as well as the concentration recited in claims 3 and 4 (see col. 2, lines 61-63).

Accordingly, this reference discloses the claimed invention with the exception of the use of a silicate containing a combination of antimony with tungsten, niobium and/or tantalum.

However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to select a combination of antimony with niobium or tantalum as constituent "M" in the reference material, since this reference clearly suggests such a mixture of elements (col. 2, lines 59-61).

Claims 7-10, 14, 15, 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bedard as applied above, and further in view of Dietz et al. (U.S. Patent No. 5,888,398). Bedard discloses the claimed invention with the exception of the recited pH for the aqueous stream, the removal of radioactive metal ions, and the presence of background ions in the stream undergoing treatment. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to treat a nuclear waste stream of the type recited (i.e. containing radioactive cesium and background ions such as sodium and calcium) having a pH of less than 7 by the process of Bedard (see col. 1, lines 14-15), since Dietz et al. teaches (see col. 1, lines 22-27) that such nuclear waste streams are typically acidic; and further teaches (see col. 6, lines 3-6) that such streams contain background ions such as sodium and calcium.

Applicant is again advised that should claim 7 be found allowable, then claim 8 will be objected to under 37 CFR § 1.75 as being a substantial duplicate thereof. See M.P.E.P. § 706.03(k).

Applicant's arguments filed August 30, 2004 have been noted and carefully considered but are not deemed to be persuasive of patentability. Applicant argues that Bedard requires the

presence of titanium in the disclosed molecular sieve, whereas nowhere in Applicant's specification or claims is titanium even mentioned. It is pointed out, however, that the "comprising" language of the claims (see claims 1 and 8, line 2; and claim 14, line 3) does not preclude the presence of titanium in the treatment material.

Applicant also argues that antimony is not enablely disclosed in the Bedard patent, particularly since it is not described in any working example. Again, this argument has been noted and carefully considered, but is not deemed to be persuasive of patentability. It is pointed out that antimony is clearly disclosed as a possible constituent in the treatment material (see col. 2, line 60); and one of ordinary skill in the liquid purification would be capable of determining how to incorporate this metal into the silicate treatment material of the primary reference.

Applicant also argues that Dietz has little or nothing to do with the claimed invention. It is pointed out, however, that Dietz is relied upon only for the teaching that radioactive cesium (col. 1, line 22) is a known contaminant in an acidic aqueous solution (col. 1, line 25; and col. 6, lines 3-4) containing background ions such as sodium and calcium (col. 6, lines 5 and 6). Once given such a teaching, one of ordinary skill in the liquid purification would have been motivated to purify such a stream with the material of Bedard, since Bedard clearly teaches that the material disclosed in this reference is capable of removing contaminant cesium ions from an aqueous stream (col. 1, lines 14-15).

Claims 17 and 18 have not been rejected over "art" because the references of record do not teach or fairly suggest extracting metal ions from an aqueous solution with a material prepared in the recited manner.

Applicant's amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to I. Cintins whose telephone number is (571) 272-1155. The examiner can normally be reached on Monday through Friday from 8:30 AM to 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Duane Smith, can be reached at (571) 272-1166.

The centralized facsimile number for the USPTO is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**Ivars C. Cintins**  
**Primary Examiner**  
**Art Unit 1724**

I. Cintins  
November 28, 2004